

REMARKS / ARGUMENTS

The claims are 6 and 8-14. Claims 13 and 14 have been amended to incorporate the subject matter of claim 5. Accordingly, claim 5 has been canceled, and claim 6, which previously depended on claim 5, has been amended to depend on claim 14 as amended. Reconsideration is respectfully requested.

In the November 23, 2009 Final Office Action, claims 10-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Noble U.S. Patent No. 1,508,713* in view of *Reinking German Publication No. DE 3120721*. Claims 5 and 8-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Lorentzen U.S. Patent No. 5,521,355* in view of *Reinking*. Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Lorentzen* in view of *Reinking* and further in view of *Ide et al. Japanese Publication No. JP 57134276*.

In the Advisory Action dated March 16, 2010, the Examiner indicated that Applicants' Response to Final Office Action filed February 16, 2010 failed to place the application in condition for allowance and maintained the rejections of the claims over

the prior art for the reasons set forth in the November 23, 2009 Final Office Action.

In response, Applicants have further amended claims 13 and 14 to incorporate the subject matter of claim 5 and respectfully traverse the Examiner's rejection for the following reasons.

With respect to the Examiner's rejection of claims 10-13 based on *Noble*, Applicants once again respectfully submit that the Examiner's position is unfounded. *Noble* describes an arc welding apparatus with a welding torch including a torch body, a drive unit, a hose pack connected to the torch body which connection is constructed by a ball and socket joint 22 to enable the electrode delivery device to turn about the support 11 without producing a torsion in or twisting of the electrode guide tube 7. The electrode is continuously fed to the arc at a proper rate to maintain the arc length substantially constant. See page 1, lines 24-31 of *Noble*. There is no disclosure or suggestion in *Noble* of operating the electrode delivery device 4 (within the torch body) and the electrode delivery device containing the feed rolls 8' with different speeds and/or different directions making it necessary to store corresponding amounts of welding wire between the two electrode delivery devices. Therefore, it is

respectfully submitted that *Noble* fails to disclose or suggest a welding torch having a wire buffer storage arranged immediately after the connection region within the torch body.

Moreover, the course of the welding wire or electrode, respectively, within the torch body of *Noble* between the electrode delivery device 4 (rolls 17) and the connection with the flexible guide tube 7 is essentially straight and not curved as recited in Applicants' claim 13 as amended. Independent from the position of the ball and socket joint 22, the welding wire of *Noble* is essentially straight between the connection joint and the rolls 17 of the electrode delivery device 4. Changing the position of the ball and socket joint 22 changes only the curved course of the flexible guide tube 7. Moreover, because the ends of the flexible guide tube 7 of *Noble* are connected to the ball socket type joint 22 and the member 8, it is not possible to change the amount of welding wire within the flexible guide tube 7. Therefore, this curved course of the flexible guide tube 7 also does not represent a wire buffer storage within the meaning of Applicants' claims, even if that curved course were within the torch body.

Similarly, even if the conveying direction of the electrode delivery device 4 of *Noble* were to be reversed, no curved course of the welding wire would be caused within the torch body.

In contrast, Applicants' welding torch as recited in claim 13 as amended enables the welding wire to change the radius of the curved course within the torch body when the direction of the rolls 36, 37 are reversed. The resulting forces onto the welding wire during the reversed conveyance direction would act in a tangential direction of the curved course of the wire buffer storage 43. This force changes the curved course and the radius of the curved course and therefore also the amount of welding wire stored within the wire buffer.

In the construction according to *Noble*, the resulting force onto the welding wire during a reversal of the direction of the electrode delivery device 4 would act essentially in the direction of the welding wire. Such a force within the more or less straight course of the welding wire in *Noble* would never lead to a curved course of the welding wire. If the force exceeds a certain limit, the welding wire would nick or break, and the welding process would have to be stopped.

The defects and deficiencies of the primary reference to *Noble* are nowhere remedied by the secondary reference to *Reinking*, which simply describes a method for the continuous withdrawal of the wire from a coil, whereby a wire buffer is arranged between coils 8, 8' and a welding apparatus 9. There is no disclosure or suggestion of a curved course as recited in Applicants' claims. Moreover, the wire buffer of *Reinking* is not arranged within the torch body of the welding torch.

In any event, claim 13 has been amended to incorporate the subject matter of claim 5, thereby obviating the rejection based on *Noble*.

With respect to the Examiner's rejection of claims 5-6 and 8-14 based on *Lorentzen* as a primary reference, it is respectfully submitted that the Examiner's position is unfounded for the reasons set forth in Applicants' Amendment filed August 21, 2009. Although the Examiner has asserted that *Lorentzen* has the ability to store a certain amount of welding wire within the torch housing, it is respectfully submitted that this assertion is unsupported by *Lorentzen*. Aside from only slight movements of the conduit 104 within the torch cable 42 and within the torch housing 40 being possible in *Lorentzen's* arrangement, FIG. 3 of

Lorentzen clearly shows that there are numerous elements such as DC motor 30, passage 46 for feeding cover gas, one or more trigger wires 108, and wires 116 beside the end of conduit 104 which would prevent a free movement of the conduit 104 and therefore prevent a change of the current course and the storage of welding wire within the torch housing 40.

Moreover, *Lorentzen* provides no indication that the welding wire 20 would change its conveyance direction during the welding process and even if the pulling means 24 and 28 were to rotate with different rotation speeds, the welding wire 20 could escape within the whole torch cable 42 as well as within the feeder assembly 12 between the drive rollers of the pulling means 24 and the insert 48 which would lead to a possible buckling of the welding wire and therefore to problems during the welding process.

As discussed previously, there is no disclosure or suggestion in *Reinking* to modify the arrangement of *Lorentzen* so as to provide a wire buffer storage arranged immediately after the connection region within the torch body formed from a wire core following a curved course between the connection region and the drive unit as recited in Applicants' claim 14 as amended.

The remaining reference to *Ide et al.* simply discloses a detector for projecting length of the welding wire, not an indicator as recited in Applicants' claim 6 arranged on the end of the wire coil 32 where a change in the position of the indicator 40 results in a change of the inductivity of the coil 41 into which the wire coil 32 immerses along with the indicator.

Thus, it is respectfully submitted that all references cited by the Examiner are far from Applicants' welding torch as recited in the claims. Nevertheless, to further distinguish over the cited references, claims 13 and 14 have been amended to incorporate the subject matter of claim 5 wherein the sensor is arranged to detect the movement of the wire core in the freely movable end region of the wire core. A change in the curved course of the welding wire will entail a change in the position of the free end of the wire core which may be recorded in order to access the amount of welding wire contained in the wire buffer storage. It is respectfully submitted that this feature in combination with the welding torch as recited in claims 13 and 14 as amended or the benefits achieved thereby is nowhere disclosed by the cited references.

Accordingly, it is respectfully submitted that amended claims 13 and 14, together with claims 9-12 which depend on amended claim 13 and claims 6 and 8 which depend on amended claim 14, are patentable over the cited references.

In summary, claims 6, 13 and 14 have been amended and claim 5 has been canceled. In view of the foregoing, it is respectfully submitted that the claims be allowed and that this application be passed to issue.

Applicants also submit herewith a Second Supplemental Information Disclosure Statement.

Respectfully submitted,
Manfred HUBINGER ET AL

Frederick J. Dorchak, Reg. No. 29,298
Attorneys for Applicants

COLLARD & ROE, P.C.
1077 Northern Boulevard
Roslyn, New York 11576
(516) 365-9802
FJD:cmm

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Amy Klein
Amy Klein